

and dual responses, effects of temperature and mineral nutrition and gas composition, translocation of the floral stimulus, grafting, growth promoters and retardants, florigenic extracts, induction of excised apices, and chemical and ultrastructural changes at induction.

The final chapter is an excellent summary by the editor. "Inductive photoperiodic conditions lead to the export from leaves of floral stimuli which may differ between plants. Non-inductive conditions can lead to the export of inhibitors of flower evocation, whose production is also under photoperiodic control. Besides these primary photoperiodic stimuli there may also be produced a more stable, and possibly more universal, graft-transmissible flower hormone. This can be generated, independently of floral evocation, by extended photoperiodic induction of leaves (Perilla), or by secondary induction of young leaves (Xanthium) or defoliated leaves (Silene), or simply with increasing age (Pisum). There is thus a multiplicity of floral stimuli, and what is a positive stimulus to floral evocation in one plant or condition may be inhibitory to it in another, as are the gibberellins and abscisin."

Each paper is well printed and has its own detailed bibliography, adding so much to all the valuable data given.

The price is more astronomical than botanical!

TWO NEW VARIETIES OF PIPEWORT

Harold N. Moldenke

LEIOTHRIX DUBIA var. *VILLOSA* Moldenke, var. nov.

Haec varietas a forma typica speciei pedunculis densissime albo-villosis pilis antrorsis recedit. This variety differs from the typical form of the species in having its peduncles very densely white-villous with antrorse hairs.

The type of the variety was collected by H. S. Irwin, H. Maxwell, and D. C. Wasshausen (no. 20481) in a wet campo in an area of campo slopes and sandstone outcrops in the Serra do Cipó, at km. 115 about 140 km. north of Belo Horizonte, Minas Gerais, Brazil, on February 19, 1968, and is deposited in the Britton Herbarium at the New York Botanical Garden.

SYNGONANTHUS DENSIFLORUS var. *GLABRESCENS* Moldenke, var. nov.

Haec varietas a forma typica speciei foliis vaginisque glabris vel subglabris recedit.

The type of the variety was collected by H. S. Irwin, R. Souza, J. W. Grear, and R. Reis dos Santos (no. 17022) on a periodically flooded campo, 400 m. alt., ca. 30 km. S. of Xavantina, Mato Grosso, Brazil, on June 12, 1966, and is deposited in my personal herbarium at Plainfield, New Jersey.